

(d) a rotating brush assembly being affixed to said rotor and comprised of a pair of brushes each electrically insulated from the other, having springs, and a brush keeper with a counter weight at one end and a fulcrum at its center of gravity as means for applying pressure ensuring contact between said rotating brushes and stationary commutator segments, one of the said rotating brushes being physically arranged 180 electrical degrees apart from the other, each said brush having a limited range of movement within brush holder, electrically contacting one of the said slip rings and adjacent ones of said commutator segment forming an electrical shunt between them as a means for transferring electrical energy from a power source to said windings.

2 ) The machine in claim 1 wherein said stationary armature windings and rotor coil having a shunt electrical connection such that electrical current from said power source flows through said armature windings and rotor coil in a parallel electrical connection.

3) The machine in claim 1 wherein said stationary armature windings and rotor coil having a series electrical connection such that electric current from said power source flows through said armature windings and rotor coil in a series electrical connection.

4) The machine in claim 1 wherein said stationary armature windings and rotor coil having a shunt electrical connection at one end via one of said rotating brushes such that electric current from said power source flows through said armature windings and rotor coil in a parallel electrical connection and whereas said current continues to flow from said rotor coil through a third stationary slip ring affixed to the machine house continuing to an outside regulator as a means for separate excitation and regulation.

5) The machine in claim 1 wherein said rotating brushes electrically contact the outer diameter of the cylindrical stationary commutator and slip rings such that centrifugal forces acting on said brushes forces them in an outward direction away from the surface of the commutating assembly parallel to the plane of rotation, while said brush keepers apply a moment equal and opposite that applied from the centrifugal forces acting on said brushes as a means for keeping said brushes in contact with said commutator assembly.

6) The machine in claim 1 wherein said rotating brushes electrically contact the inner diameter of the cylindrical stationary commutator and slip rings such that centrifugal forces acting on said brushes forces them in an outward direction towards the inner surface of the commutating assembly parallel to the plane of rotation, while said brush keepers apply a moment equal and opposite that applied from the centrifugal forces acting on said brushes as a means for preventing said brushes from applying excessive pressure at the point of contact on said commutator assembly.